P-3 Orion 04/24/17

Aircraft:
P-3 Orion (See full schedule)
Flight Number:
Science Flight #28-Geikie 01 (High Priority)
Payload Configuration:
OIB Arctic
Nav Data Collected:
No
Total Flight Time:
8 hours
Submitted by:
Cate Easmunt on 04/24/17
Flight Segments:

From:	BGSF	**To:**	BGSF
Start:	04/24/17 11:00 Z	**Finish:**	04/24/17 19:00 Z
Flight Time:	8 hours		
Log Number:	17P006	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Flight Hour Summary:

	17P006
Flight Hours Approved in SOFRS	333.6
Total Used	299.1
Total Remaining	34.5

17P006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
02/24/17	Airworthiness Test Flight	Check	1	1	332.6
02/26/17	Project Test Flight #1	Check	4.9	5.9	327.7
02/27/17	Project Test Flight #2	Check	3	8.9	324.7
03/07/17	Transit Flight	Transit	8.2	17.1	316.5
03/09/17	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
03/10/17	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
03/11/17 - 03/12/17	Science Flight #3 - Chukchi West Line	Science	8	41.6	292
03/12/17 - 03/13/17	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
03/14/17 - 03/15/17	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
03/20/17	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
03/22/17	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
03/23/17	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
03/24/17	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
03/27/17	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
03/28/17	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
03/29/17	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6
03/30/17	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7

03/31/17	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
04/03/17	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
04/05/17	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
04/06/17	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
04/07/17	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178
04/10/17	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
04/11/17	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
04/12/17	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
04/13/17	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
04/14/17	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
04/17/17	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
04/19/17	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
04/20/17	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
04/21/17	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
04/22/17	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
04/24/17	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
04/26/17	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
04/28/17	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
04/29/17	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3
05/01/17	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
05/02/17	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
05/03/17	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
05/05/17	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
05/06/17	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - P-3 Orion 04/24/17 Science Report

Mission:
OIB
Mission Summary:

Mission: Geikie 01 (priority: high)

This mission is a repeat of 2010, 2011 and 2014 IceBridge missions. It includes reflights of the Daugard-Jensen, Vestfjord and Kong Christian IV glaciers, and the ?X? pattern over the Geikie Plateau, all of which have pre-IceBridge altimetry from ATM. It also reflies the Eielson, De Reste Bugt, Sortebrae and Kronborg glaciers, first flown in 2010. Finally, the northern transit line across the ice sheet is a master grid line, which had not been flown prior to 2014.

A series of storms is forecast to move up the Davis Strait into southwestern Greenland, southern Baffin Island, and Baffin Bay this week. The first of these storms was in the process of moving in when we departed Kangerlussuaq this morning. As a result, almost all of southern Greenland and the southern 2/3 of the west coast were completely covered in low cloud this morning, a situation we expect to get worse as this week progresses. The area of the east coast north of Kangerdlugssuaq Glacier was clear, however, and with light westerly winds forecast well into the afternoon was expected to stay that way today. Since we expect the weather across southern Greenland and Baffin Island to remain poor until late this week, there was a strong possibility that today might be our last flight for the next few days. So we selected this mission, knowing that we would not obtain much if any optical data west of the divide. In the event, we were 100% successful over our primary science objectives east of the divide, and 100% unsuccessful west of the divide (except for the radars) - more or less as we expected. We estimate our overall successful data return today at around 70%. We will attempt to pick up the missed portions in the west in a later mop-up mission.

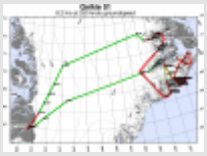
All instruments performed well, but the occasional instability of the ATM T6 (wide-scanner) data system, noted yesterday, persisted. This caused very brief (<1 minute) outages on several occasions today. We intend to reassemble portions of the data acquisition system (reseating boards and connectors) after today's flight in an attempt to prevent recurrences.

Data volumes:
Accumulation Radar: 1.4 Tb
ATM: 105 Gb
CAMBOT: 40 Gb
DMS: 98 Gb
FLIR: 16.0 Gb
KT19: 11 Mb
MCoRDS: 1.9 Tb
Narrow Swath ATM: 36 Gb
Snow Radar: 809 Gb

total data collection time: 7.7 hrs

Images:

Map of Geikie 01



Map of today's flight.

Read more

South Glacier

South Glacier, which drains the Geikie Plateau and flows into Scoresby Sound to the north. Note Geikie's characteristic knife-edge ridges and prominent horizontal rock layering, especially in the foreground.

Read more

Rock arch and pinnacles

A rock arch (slightly left of and below center) and several pinnacles on another knife-edge ridge near the Geikie Plateau.

Read more

Mount Gunnbjorn

Mount Gunnbjorn, at top center. Gunnbjorn is Greenland's tallest peak at 12,100 ft, and also the highest peak in the world north of the Arctic Circle.

Read more

Daugard-Jensen Glacier

The very active calving front of Daugard-Jensen Glacier.

Read more

Submitted by:
John Sonntag on 04/24/17